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Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in this application. Added text is indicated by underlining, and deleted text is indicated by ~~strikethrough~~. Changes are identified by a vertical bar in the margin.

Listing of Claims:

1   1.   (previously presented) A control method for a storage system which
2 comprises a plurality of information processing units, a managing computer, a storage device
3 provided with a plurality of logical volumes, and a user interface, said control method
4 comprising:
5   performing a first process in which when a data write request to a first logical
6 volume is sent from the information processing unit to the storage device the storage device
7 stores data in the first logical volume and also stores the data in a second logical volume;
8   performing a second process in which the storage device suspends the first
9 process;
10   shifting from the second process to the first process to perform the first process;
11   when shifting from the second process to the first process to perform the first
12 process, inquiring an information processing unit which can access the second logical volume, of
13 whether said information processing unit mounts the second logical volume or not;
14   deciding whether said information processing unit mounts the second logical
15 volume or not;
16   when the information processing unit mounts the second logical volume,
17 outputting that effect from said user interface before shifting to the first process;
18   accepting a change of pair condition between said first logical volume and said
19 second logical volume at the managing computer, wherein said accepted change comprises a
20 shift from said second process to said first process initiated through the user interface, wherein
21 said managing computer inquires to an information processing unit accessible to said second

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22   logical volume as to whether or not said second logical volume is mounted available to read and

23   write from said information processing unit;

24   when as a result of said inquiring by the managing computer, if the managing

25   computer finds that said second logical volume is mounted available to read and write from said

26   information processing unit, then outputting an indication that the second logical volume is

27   mounted through the user interface of the managing computer without instructing the change to

28   said pair condition to said information processing unit.

1   2.   (previously presented) A control method for a storage system which

2   comprises a plurality of information processing units, a managing computer, a storage device

3   provided with a plurality of logical volumes, and a user interface, said control method

4   comprising:

5   performing a process in which when a data write request to a first logical volume

6   is sent from the information processing unit to the storage device the storage device stores data

7   in the first logical volume and also stores the data in a second logical volume;

8   when the control is to be newly initiated between the first logical volume and the

9   second logical volume, inquiring an information processing unit which can access the second

10   logical volume, of whether said information processing unit mounts the second logical volume or

11   not;

12   deciding whether the information processing unit mounts the second logical

13   volume or not; and

14   when the information processing unit mounts the second logical volume,

15   outputting that effect from said user interface without being newly initiated between the first

16   logical volume and the second logical volume;

17   accepting a change of pair condition between said first logical volume and said

18   second logical volume at the managing computer, wherein said accepted change comprises a

19   shift from said second process to said first process initiated through the user interface, wherein

20   said managing computer inquires to an information processing unit accessible to said second

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21   logical volume as to whether or not said second logical volume is mounted available to read and

22   write from said information processing unit;

23   when as a result of said inquiring by the managing computer, if the managing

24   computer finds that said second logical volume is mounted available to read and write from said

25   information processing unit, then outputting an indication that the second logical volume is

26   mounted through the user interface of the managing computer without instructing the change to

27   said pair condition to said information processing unit.

1   3.   (currently amended) A control method for a storage system which

2   comprises a plurality of information processing units, ~~a managing computer,~~ a storage device

3   provided with a plurality of logical volumes, and a managing computer, ~~and,~~ said control method

4   comprising:

5   performing a first process in which when a data write request to a first logical

6   volume is sent from the information processing unit to the storage device the storage device

7   stores data in the first logical volume and also stores the data in a second logical volume;

8   performing a second process in which the storage device suspends the first

9   process;

10   shifting from the second process to the first process to perform the first process;

11   when shifting from the second process to the first process to perform the first

12   process, inquiring an information processing unit which can access the second logical volume of

13   whether the information processing unit mounts the second logical volume or not;

14   deciding whether the information processing unit mounts the second logical

15   volume or not; and

16   when the information processing unit mounts the second logical volume,

17   outputting that effect from a user interface of the managing computer before performing the first

18   process;

19   accepting a change of pair condition between said first logical volume and said

20   second logical volume at the managing computer, wherein said accepted change comprises a

21   shift from said second process to said first process initiated through the user interface, wherein

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22   said managing computer inquires to an information processing unit accessible to said second

23   logical volume as to whether or not said second logical volume is mounted available to read and

24   write from said information processing unit;

25   when as a result of said inquiring by the managing computer, if the managing

26   computer finds that said second logical volume is mounted available to read and write from said

27   information processing unit, then outputting an indication that the second logical volume is

28   mounted through the user interface of the managing computer without instructing the change to

29   said pair condition to said information processing unit.

1   4.   (previously presented) A storage system control method according to

2   claim 1, wherein when the information processing unit does not mount the second logical

3   volume the storage device shifts from the second process to the first process to perform the first

4   process.

1   5.   (previously presented) A control method for a storage system which

2   comprises a plurality of information processing units, a managing computer, a first storage

3   device provided with a first logical volume in a first site, a second storage device provided with a

4   second logical volume in a second site, said method comprising:

5   performing a first process in which when a data write request to the first logical

6   volume is sent from the information processing unit to the first storage device the first storage

7   device stores data in the first logical volume, the first storage device sends the data to the second

8   storage device, and the second storage device which receives the data stores the data in the

9   second logical volume;

10   performing a second process in which the second storage device suspends the first

11   process;

12   the second storage device shifting from the second process to the first process to

13   perform the first process;

14   when shifting from the second process to the first process to perform the first

15   process, inquiring an information processing unit which can access the second logical volume of

16   whether the information processing unit mounts the second logical volume or not;

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17   deciding whether the information processing unit mounts the second logical

18   volume or not; and

19   when the information processing unit mounts the second logical volume,

20   outputting that effect from a user interface before shifting to the first process;

21   accepting a change of pair condition between said first logical volume and said

22   second logical volume at the managing computer, wherein said accepted change comprises a

23   shift from said second process to said first process initiated through the user interface, wherein

24   said managing computer inquires to an information processing unit accessible to said second

25   logical volume as to whether or not said second logical volume is mounted available to read and

26   write from said information processing unit;

27   when as a result of said inquiring by the managing computer, if the managing

28   computer finds that said second logical volume is mounted available to read and write from said

29   information processing unit, then outputting an indication that the second logical volume is

30   mounted through the user interface of the managing computer without instructing the change to

31   said pair condition to said information processing unit.

1   6.   (previously presented) A storage system control method according to

2   claim 5, wherein when the information processing unit does not mount the second logical

3   volume the second storage device shifts from the second process to the first process to perform

4   the first process.

1   7.   (previously presented) A storage system connectable to a plurality of

2   information processing units, a managing computer, a storage device provided with a plurality of

3   logical volumes, and a user interface, said storage system comprising:

4   means for performing a first process in which when a data write request to a first

5   logical volume is sent from the information processing unit to the storage device the storage

6   device stores data in the first logical volume and also stores the data in a second logical volume;

7   means for performing a second process in which the storage device suspends the

8   first process;

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9   means for shifting from the second process to the first process to perform the first

10   process;

11   means for inquiring an information processing unit which can access the second

12   logical volume of whether the information processing unit mounts the second logical volume or

13   not when shifting from the second process to the first process to perform the first process;

14   means for deciding whether the information processing unit mounts the second

15   logical volume or not;

16   means for, when the information processing unit mounts the second logical

17   volume, outputting that effect from said user interface before shifting to the first process;

18   means for accepting a change of pair condition between said first logical volume

19   and said second logical volume at the managing computer, wherein said accepted change

20   comprises a shift from said second process to said first process initiated through the user

21   interface, wherein said managing computer inquires to an information processing unit accessible

22   to said second logical volume as to whether or not said second logical volume is mounted

23   available to read and write from said information processing unit;

24   means for, when as a result of said inquiring by the managing computer, if the

25   managing computer finds that said second logical volume is mounted available to read and write

26   from said information processing unit, then outputting an indication that the second logical

27   volume is mounted through the user interface of the managing computer without instructing the

28   change to said pair condition to said information processing unit.

1   8.   (previously presented) A managing computer connectable to a storage

2   system which comprises a plurality of information processing units and a storage device

3   provided with a plurality of logical volumes, said managing computer comprising:

4   means for shifting from a second process to a first process to perform the first

5   process;

6   means for inquiring an information processing unit which can access a second

7   logical volume of whether the information processing unit mounts the second logical volume or

8   not when shifting from the second process to the first process to perform the first process,

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9   wherein said first process is that the storage device stores data in a first logical volume and also

10   stores the data in the second logical volume, wherein said second process is that the storage

11   device suspends the first process;

12   means for, when the information processing unit mounts the second logical

13   volume, outputting that effect from said user interface before shifting to the first process;

14   means for accepting a change of pair condition between said first logical volume

15   and said second logical volume at the managing computer, wherein said accepted change

16   comprises a shift from said second process to said first process initiated through the user

17   interface, wherein said managing computer inquires to an information processing unit accessible

18   to said second logical volume as to whether or not said second logical volume is mounted

19   available to read and write from said information processing unit;

20   means for, when as a result of said inquiring by the managing computer, if the

21   managing computer finds that said second logical volume is mounted available to read and write

22   from said information processing unit, then outputting an indication that the second logical

23   volume is mounted through the user interface of the managing computer without instructing the

24   change to said pair condition to said information processing unit.

1   9.   (canceled)

1   10.   (previously presented) A computer-readable storage medium having a

2   program for a managing computer in a storage system comprising a plurality of information

3   processing units and a storage device provided with a plurality of logical volumes, said program

4   comprising:

5   code for performing a first process in which when a data write request to a first

6   logical volume is sent from the information processing unit to the storage device the storage

7   device stores data in the first logical volume and also stores the data in a second logical volume,

8   code for performing a second process in which the storage device suspends the

9   first process,

10   code for shifting from the second process to the first process to perform the first

11   process,

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12   code for inquiring an information processing unit which can access the second

13   logical volume of whether the information processing unit mounts the second logical volume or

14   not when shifting from the second process to the first process to perform the first process,

15   code for deciding whether the information processing unit mounts the second

16   logical volume or not,

17   code for, when the information processing unit mounts the second logical volume,

18   outputting that effect from a user interface of the managing computer before shifting to the first

19   process,

20   code for accepting a change of pair condition between said first logical volume

21   and said second logical volume at the managing computer, wherein said accepted change

22   comprises a shift from said second process to said first process initiated through the user

23   interface, wherein said managing computer inquires to an information processing unit accessible

24   to said second logical volume as to whether or not said second logical volume is mounted

25   available to read and write from said information processing unit;

26   code for, when as a result of said inquiring by the managing computer, if the

27   managing computer finds that said second logical volume is mounted available to read and write

28   from said information processing unit, then outputting an indication that the second logical

29   volume is mounted through the user interface of the managing computer without instructing the

30   change to said pair condition to said information processing unit.

1   11.   (previously presented) A method according to claim 1, further including:

2   continuing the change of the pair condition of shifting from said second process to

3   said first process through the user interface, even if it is outputted to the user interface of the

4   managing computer that said information processing unit mounted the second logical volume,

5   and said managing computer sending a request of forced change of said pair condition to said

6   information processing unit, said information processing unit sends the request of the forced

7   change to said storage device in response to the forced change request, and said storage device

8   shifts said pair condition from said second process to said first process in response to the forced

9   change request.

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1   12.   (previously presented) A method according to claim 2, further including:

2   continuing the change of the pair condition of shifting from said second process to

3   said first process through the user interface, even if it is outputted to the user interface of the

4   managing computer that said information processing unit mounted the second logical volume,

5   and said managing computer sending a request of forced change of said pair condition to said

6   information processing unit, said information processing unit sends the request of the forced

7   change to said storage device in response to the forced change request, and said storage device

8   shifts said pair condition from said second process to said first process in response to the forced

9   change request.

1   13.   (previously presented) A method according to claim 3, further including:

2   continuing the change of the pair condition of shifting from said second process to

3   said first process through the user interface, even if it is outputted to the user interface of the

4   managing computer that said information processing unit mounted the second logical volume,

5   and said managing computer sending a request of forced change of said pair condition to said

6   information processing unit, said information processing unit sends the request of the forced

7   change to said storage device in response to the forced change request, and said storage device

8   shifts said pair condition from said second process to said first process in response to the forced

9   change request.

1   14.   (previously presented) A method according to claim 5, further including:

2   continuing the change of the pair condition of shifting from said second process to

3   said first process through the user interface, even if it is outputted to the user interface of the

4   managing computer that said information processing unit mounted the second logical volume,

5   and said managing computer sending a request of forced change of said pair condition to said

6   information processing unit, said information processing unit sends the request of the forced

7   change to said storage device in response to the forced change request, and said storage device

8   shifts said pair condition from said second process to said first process in response to the forced

9   change request.

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1   15.   (previously presented) A system according to claim 7, further including:

2   means for continuing the change of the pair condition of shifting from said second

3 process to said first process through the user interface, even if it is outputted to the user interface

4 of the managing computer that said information processing unit mounted the second logical

5 volume, and said managing computer sending a request of forced change of said pair condition to

6 said information processing unit, said information processing unit sends the request of the forced

7 change to said storage device in response to the forced change request, and said storage device

8 shifts said pair condition from said second process to said first process in response to the forced

9 change request.

1   16.   (previously presented) A managing computer according to claim 8,

2 further including:

3   means for continuing the change of the pair condition of shifting from said second

4 process to said first process through the user interface, even if it is outputted to the user interface

5 of the managing computer that said information processing unit mounted the second logical

6 volume, and said managing computer sending a request of forced change of said pair condition to

7 said information processing unit, said information processing unit sends the request of the forced

8 change to said storage device in response to the forced change request, and said storage device

9 shifts said pair condition from said second process to said first process in response to the forced

10 change request.

1   17.   (previously presented) A computer-readable storage medium according to

2 claim 10, further including:

3   code for continuing the change of the pair condition of shifting from said second

4 process to said first process through the user interface, even if it is outputted to the user interface

5 of the managing computer that said information processing unit mounted the second logical

6 volume, and said managing computer sending a request of forced change of said pair condition to

7 said information processing unit, said information processing unit sends the request of the forced

8 change to said storage device in response to the forced change request, and said storage device

9   shifts said pair condition from said second process to said first process in response to the forced

10   change request.